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STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

CLEANUP AND ABATEMENT ORDER NO. 98-075

REQUIRING GATX TANK STORAGE TERMINALS CORPORATION
TO CLEANUP AND ABATE
CONDITIONS OF SOIL AND GROUND WATER POLLUTION
CAUSED BY THE RELEASE OF PETROLEUM HYDROCARBONS
(GX-145 PIPELINE)
(FILE NO. 98-135)

INTRODUCTION

Releases of petroleum fuel have been documented at GATX pipeline GX-145 near Compton Creek, located in Rancho Dominguez, California. Adjacent property and waters of the State have been adversely impacted by these releases. Investigations have been conducted that document extensive soil and groundwater contamination that remains in place despite some remediation measures taken by the GATX Tank Storage Terminals Corporation (GATX).

The California Regional Water Quality Control Board, Los Angeles Region, finds:

1. GATX Tank Storage Terminals Corporation (hereinafter called discharger) discharged petroleum hydrocarbons into soil and waters of the State. GATX operates GATX Carson Terminals located at 2000 East Sepulveda Boulevard, Carson, California. GATX transports diesel fuel, unleaded regular gasoline, commercial jet fuel, and naphtha via GX-145 pipeline from the Paramount Refinery to GATX Carson Terminal. The GATX GX-145 pipeline was installed approximately 40 years ago.

2. Seepage of free-phase hydrocarbon product to the Compton Creek in Rancho Dominguez was discovered by Los Angeles County Department of Public Works (LACDPW) on September 9, 1997 and reported to the Office of Emergency Services on September 9, 1997, 12:45 p.m.. LACDPW also notified the Department of Fish and Game which was on scene on September 9, 1997, to oversee the surface water cleanup.

3. The GX-145 pipeline runs beneath the Santa Fe Avenue bridge over Compton Creek and is buried 10 feet below ground surface (BGS) except for the bridge crossing. Compton Creek is approximately 17 feet lower in elevation than the top to the roadway on the Santa Fe Avenue bridge. The oil discharge migrated through soil, saturated the soil near the south side of the creek bed, and migrated into surface water. Approximately one foot of oil accumulated in the embankment and bridge supported area as shown in Figure 1. GATX contracted Advanced Cleanuip Technology Inc. to cleanup the surface water discharge. Hard and oil absorbent booms were placed 50 feet upstream and 200 feet downstream from the bridge to prevent further oil migration.

Approximately 20 barrels of oil, mainly diesel, was recovered by vacuum trucks from the surface water and impacted vegetation was removed from the creek bottom. A strong hydrocarbon odor was present near the embankment beneath the bridge due to the oil spill.

4. GATX conducted a hydrostatic leak test of this pipeline on May 16, 1996, and results showed no leaks. The plastic packing material between the oil pipe and casing pipe was deteriorated indicating corrosion caused the leak in the pipeline. GATX began repairs to the pipeline on September 10, 1997 and the pipeline was returned to service on September 14, 1997. A small hole, less than one-eighth of an inch in diameter, was found in a section of the six-inch diameter steel pipeline that was encased by a 12-inch diameter protective steel casing located south of the Santa Fe Avenue bridge. The casing was installed to protect the pipeline where it crossed beneath the Southern Pacific railroad tracks. The north end of the casing stopped approximately 20 feet south of the Santa Fe Avenue bridge and the south end approximately 20 feet south of the Southern Pacific railroad tracks. Petroleum hydrocarbons were found in soil at both ends of the casing.

5. GATX contracted Environ Corporation (Environ) to conduct the investigation to delineate the extent of contamination. Environ completed 17 hand auger borings and one backhoe test pit on September 15, 1997, to a maximum depth of 12 feet below grade as shown in Figure 1. Results were documented in draft *Site Characterization and Remedial Measures Work Plan GATX GX-145 Pipeline Release*, dated September 19, 1997, prepared by Environ, and summarized below:

   Petroleum hydrocarbon-impacted soil and separate phase hydrocarbons were identified in several borings along the edge of Compton Creek. A 260-foot long area (approximately 60 feet upgradient and 80 feet downgradient of the 120-foot wide bridge) was found to contain separate phase hydrocarbons. The separate phase product was found at depths ranging from five to nine feet and was very fresh as indicated by the clarity, color, and lack of biodegradation. Impacted soil was present in the backhoe test pit beneath the bridge from the ground surface to a depth of eight feet (the total depth of the pit). Separate phase hydrocarbons were observed flowing into the trench between depths of seven and eight feet. Approximately 30 gallons of product accumulated in the bottom of trench over a six-hour period. Groundwater was not encountered in any of the borings. The product sample collected from boring HA-3 was found to contain: benzene - 17 milligrams per liter (mg/l), toluene - 560 mg/l, ethylbenzene- 130 mg/l, and xylenes - 650 mg/l.

6. On September 16, 1997, Regional Board staff attended a field meeting to discuss the existing site assessment and future remedial actions. Staff also conducted a site inspection after the meeting. Two surface water samples were collected, one from upstream and one from downstream of the spill area. Both water samples were free of petroleum contamination.

7. On September 23, 1997, the Regional Board approved the draft *Site Characterization and Remedial Measures Work Plan, GATX GX-145 Pipeline Release, Rancho Domingues*, dated September 19, 1997, prepared by Environ. The proposed plan included sixteen soil borings and four temporary wells. *Preliminary Findings*, dated September 29, 1997, indicated that a mixture of naphtha and diesel was found in soil and groundwater in an approximate radius of 140 to 200 feet from the pipeline release point. Product was present from approximately 20 to 45 feet BGS where two water-bearing zones exists at 24 feet and 40 feet BGS. In October 15, 1997, field meeting, Environ indicated that 3 feet of product was found in one temporary well within Compton Creek. Product recovery was implemented by bailing from temporary wells.

8. On November 5, 1997, the Regional Board approved the *Remedial Measures Workplan, GATX GX-145 Pipeline Release, Rancho Domingues*, dated October 31, 1997, prepared by Environ. The proposed plan included soil remediation, a product recovery test and installation of product recovery wells and groundwater monitoring wells.

9. On November 12, 1997, GATX submitted the *Preliminary Site Characterization Report*, dated November 12, 1997, prepared by Environ. Results are summarized below:

    a. Three temporary product recovery wells were installed, ranging from 10 to 15 feet below grade, at the base of the south side slope in Compton Creek on September 29, 1997 and abandoned on November 6, 1997. The product thickness was measured up to 5.55 feet in one well. About 23 gallons of product was recovered from wells by bailing in October 1997 is.

    b. Petroleum hydrocarbon contamination was present from 7 feet to 50 feet BGS in soil and groundwater, with the majority detected between two sandy layers located in 20 to 30 feet and 30 to 40 feet BGS. The maximum petroleum concentration detected in shallow soil boring was 91,000 mg/kg. The product sample collected from the north bank of the creek contained diesel of 890,000 ppm, gasoline of 300,000 ppm and total BTEX (benzene, toluene, ethylbenzene, and xylenes) of 1,357 ppm.

    c. Based on the products transported through GX-145 line, the release may have occurred between May 1997 and September 1997.

    d. Based on the available data, the petroleum hydrocarbons may have migrated through the sandy zone present at a depth of 25 feet BGS until encountering the relatively impermeable concrete wall of the Santa Fe Avenue bridge Pier #3. Due to the hydraulic head pressure from the pressurized pipeline, the product is estimated to have been pushed upward where it then pooled under the bridge. It is also possible that the hydrocarbons migrated through the thin silt/sand lenses

present in the clays surrounding the pipeline release area and pooled beneath the bridge.

e. Review of regulatory agency databases did not indicate the presence of landfills on the site or in the nearby vicinity. Other obvious indicators of potential sources of hazardous waste from land use, such as aboveground tanks, ponds, pits, sumps, and heavy-industry or oil-field-related developments were not observed at the site.

10. On December 19, 1997, GATX submitted the *November-December 1997 Remediation Summary Report,* prepared by Environ. Results are summarized below:

a. Three product recovery wells, RW1-3, were installed along the western access road of Compton Creek, north of the Santa Fe Avenue bridge on November 5 and 6, 1997. Three wells could not be completed due to access difficulties. Two wells proposed in the Union Pacific Railroad right-of-way will be installed when permission is obtained.

b. Impacted rip-rap and underlying contaminated soil were excavated on November 6, 1997, to protect water quality in Compton Creek. The completed excavation was 120 feet long, approximately 15 feet wide and from 5-6 feet deep on the slope and 3 feet deep adjacent to Pier #3. Approximately 40 cubic yards of impacted concrete rip-rap and 300 cubic yards of oil-impacted soil were removed from the sideslope of Compton Creek. Eight confirmation samples were collected from the bottom and the upslope wall of the excavation. The highest concentrations detected from confirmation samples are 1,900 mg/kg of diesel, 520 mg/kg of gasoline, 0.82 mg/kg of ethylbenzene and 6.6 mg/kg of xylenes. No benzene, toluene, or MTBE were detected.

c. Five product samples were analyzed. Results indicated that product in the sideslope of Compton Creek was recently released from the pipeline since higher BTEX concentrations were detected in this area. No MTBE was identified in any of the product samples.

d. The appearance of groundwater in well RW3 suggests that groundwater is present in areas near RW1 and RW2. The thick accumulation of hydrocarbon product (approximately 17 feet) in these two wells is probably depressing the water table and restricting groundwater flow into the recovery wells.

11. On February 11, 1998, the Regional Board approved the *Product Recovery Pump Test Workplan* , dated January 27, 1998 to assess the area of influence around the existing extraction wells. This information can be used to assist in the spacing of additional extraction and monitoring wells and allow for evaluation of effectiveness of potential product recovery systems.

12. On May 7, 1998, the Regional Board approved the *Workplan for Additional Site Characterization and Product Recovery Pump Test Report*, dated April 15, 1998. The results of the product pump test indicated that (a)the sustainable product recovery rate from well RW1 appears to be approximately 0.17 gallons per minute; (b) the geology of the site is complex and each well may have a different radius of influence based on the presence or absence of preferential flow paths; (c) the radius of influence for RW1 is at least 120 feet.

    Based on the above findings, four recovery wells were proposed, as opposed to five proposed in the December 1997 report. In addition, three monitoring wells were proposed to assess and monitor the groundwater conditions over time. In the event that the contaminant plume is larger than anticipated, the monitoring wells may be converted to product recovery wells.

13. On July 16, 1998, the Regional Board approved *the Addendum to April 15, 1998 Work Plan for Additional Site Characterization*, dated June 12, 1998 to include one additional groundwater monitoring well to the east of Compton Creek.

14. GATX performed product recovery by bailing and submitted monthly Recovered Product Progress Report to the Regional Board. The August 1998 report indicated that approximately 505 gallons of product were recovered during August and approximately 7,139 gallons have been recovered to date.

15. A pipeline failure test conducted by the Department of Fish and Game indicated that approximately 381,886 gallons of product leaked from an 1/8 inches pinhole during a four months long discharge.

16. Based on the above findings, the free product plume emanating from the site is impacting the waters of the State which is a violation of the California Water Code (CWC), Section 13385.

17. The Regional Board adopted an amended *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan)* on June 13, 1994. The Basin Plan designates beneficial uses and establishes water quality objectives for inland surface waters, ground waters, coastal waters and wetlands.

18. Beneficial uses designated for Compton Creek include, but are not limited to groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, wildlife habitat, and wetland habitat. Beneficial uses designated for groundwater in the Central Basin underlying Rancho Dominguez include municipal and domestic supply, agricultural supply, industrial process supply, and industrial service supply.

19. This Order is an action taken for the protection of the environment and, as such, is exempt from the provisions of the California Environmental Quality Act in accordance with California Code of Regulations, Title 14, Chapter 3, Section 15321.

IT IS HEREBY ORDERED, pursuant to Water Code Section 13304, that the GATX Tank Storage Terminals Corporation shall comply with the following:

1. Cleanup and abate the condition of soil and ground water pollution and threatened pollution caused by the release of petroleum hydrocarbons by implementing the following actions:

    a. Complete a groundwater assessment to determine the full extent of groundwater contamination originating from the on-site source, and implement a quarterly groundwater monitoring program. A groundwater sampling and analysis plan shall be submitted for review and approval. Water samples shall be analyzed, at a minimum, for gasoline, diesel, naphtha, benzene, toluene, ethylbenzene, xylenes, methyl tert-butyl ether, and lead. Quarterly groundwater monitoring reports shall be submitted within 30 days after the quarter ends, with the first report beginning February 1, 1999.

    b. Initiate a phased cleanup and abatement program with the cleanup of any remaining soil and groundwater contamination and the abatement of threatened beneficial uses of wateras highest priority.

        Free product recovery shall be implemented by hand bailing as an interim measure, followed by a skimmer or total fluid recovery system for the groundwater plume. The following reports shall be submitted for review and approval during each phase of the product recovery and remediation effort:

        (1) Phase I: Complete the implementation of the April 15, 1998 workplan, and June 12, 1998, addendum and submit a Phase I report, including pump test data and any additional data necessary to design a full scale product recovery system. If the proposed Phase I work does not fully delineate the product plume and groundwater plume, then propose a Phase II Remedial Action Plan (RAP).

        (2) Phase II: Prepare a RAP, including the well locations for additional product recovery wells and groundwater monitoring wells.

        (3) Phase III: Prepare a RAP for remediation of the dissolved plume and soil contamination.

c. The activities specified in Items a and b above shall be conducted, as necessary, according to the schedule of work shown in Attachment A, or as subsequently revised and approved by the Executive Officer as the work proceeds.

d. Quarterly progress reports detailing all activities implemented and results obtained during the previous quarter including product recovery, as required by this Order, shall be submitted within 30 days after the quarter ends, with the first report beginning February 1, 1999. With justification, the discharger may request a change in the frequency of reporting for the Executive Officer's approval.

e. A final report describing any completed activities, as detailed in Attachment A, and results shall be submitted to this Board within 30 days of completion of any phase of the soil and ground water cleanup and investigation is completed.

f. The investigation and cleanup program shall be directed and conducted by a registered civil engineer or geologist, or a certified engineering geologist or hydrogeologist.

2. Abandonment of any groundwater wells(s) at the site must be reported to the Executive Officer in advance. Any groundwater well removed must be replaced within three months at a location approved by the Executive Office. With justification, the Executive Officer may approve of the abandonment of groundwater wells without replacement. When a well is removed, all work shall be completed in accordance with all applicable well abandonment requirements.

3. The Regional Board's authorized representative shall be allowed:

a. Entry upon premises where a regulated facility or activity is located, conducted, or where records are kept, under the conditions of this Order;

b. Access to copy any records that are kept under the conditions of this Order;

c. To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

d. To photograph, sample, and monitor for the purpose of assuring compliance with this Order, or as otherwise authorized by the California Water Code.

4. This Order is not intended to permit or allow the discharger to cease any work required by any other Order issued by this Regional Board, nor shall it be used as a reason to stop or redirect any investigation or cleanup or remediation programs ordered by this Board or any other agency.

5. The discharger shall provide to the Regional Board advance notice of any planned physical alterations to the facility or planned changes in the facility's activities that may affect compliance with this Order.

6. This Order does not exempt the discharger from compliance with any other laws, regulations, or ordinances which may be applicable, nor does it legalize these waste treatment and disposal facilities and it leaves unaffected any further restraints on those facilities which may be contained in other statues or required by other agencies.

7. The discharger shall provide to the Regional Board advance notice of any planned change in name, ownership, or control of the facility; provide notice to any succeeding owner or operator of the existence of Order by letter; forward a copy of such notification to the Regional Board.

8. This Order may be revised by the Regional Board through its Executive Officer as additional information on this site becomes available. Upon request by the discharger, and for good cause shown the Executive Officer may defer, delete or extend the date of compliance for any action required of the discharger under this Order. The authority of the Regional Board, as contained in the California Water Code (CWC), to order investigation and cleanup additional to that described herein, is in no way limited by this Order.

9. Section 13304 of the CWC allows the Regional Board to recover reasonable expenses from responsible parties to oversee cleanup and abatement of unregulated discharges which have adversely affected waters of the State.

10. This Order in no way limits the authority of the Regional Board as contained in the CWC, to require additional investigation and cleanup pertinent to this project. It is the intent of this Regional Board to issue Waste Discharge Requirements or other Orders pursuant to Sections 13260, 13304, and 13350 of the CWC when appropriate to facilitate this cleanup and abatement activity. Additionally, continued monitoring of the ground water quality beneath this facility after the completion of this cleanup and abatement activity may be required.

11. Failure to comply with the terms or conditions of this Order may result in imposition of civil liabilities, either administratively by the Regional Board or judicially by the Superior Court in accordance with Section 13350 of the CWC, and/or referral to the Attorney general of the State of California for such action as he may deem appropriate.

Ordered by:_____
DENNIS A. DICKERSON
Executive Officer

Dated: September 30, 1998

/RC

ATTACHMENT A

| | | Date |
|---|---|---|
| A. | GROUNDWATER ASSESSMENT AND MONITORING | |
| 1. | Complete installation of groundwater monitoring wells proposed in Phase I groundwater assessment | November 1, 1998 |
| 2. | Submit Phase I groundwater investigation report including a quarterly groundwater sampling and analysis plan and Phase II groundwater assessment workplan if necessary | December 1,1998 |
| 3. | Begin Phase II groundwater assessment | February 1, 1999 |
| 4. | Submit Phase II groundwater investigation report including a quarterly groundwater and surface water sampling and analysis plan | June 1, 1999 |
| 5. | Begin quarterly groundwater monitoring | Fourth quarter, 1998 |
| 6. | Submit quarterly groundwater monitoring report | February 1, May 1, August 1, and November 1, each year, starting February 1, 1999 |
| B. | FREE PRODUCT RECOVERY | |
| 1. | Complete Phase I installation of product recovery wells | November 1, 1998 |
| 2. | Submit a Phase I final report and a Phase II remedial action plan if necessary | December 1, 1998 |
| 3. | Begin full scale product recovery for Phase I | February 1, 1999 |
| 4. | Begin full scale product recovery for Phase II | September 1,1999 |
| 5. | Submit a final product recovery report | To be determined |
| C. | SOIL AND GROUNDWATER REMEDIATION | |
| 1. | Submit a Phase III remedial action plan | To be determined |
| 2. | Begin soil and groundwater remediation | To be determined |
| 3. | Submit a final report for groundwater and off-site soil remediation | To be determined |